

I Claim:

1. A method for curing a phenol-aldehyde resin comprising:  
mixing a curable phenol-aldehyde resin selected from the group consisting of resole resins and novolac resins comprising a source of free aldehyde with effective amounts of cyclic carbonate cure accelerant and amine cure accelerant; and  
curing the resin.
2. The method of claim 1 wherein the cyclic carbonate cure accelerant is selected from the group consisting of alkylene carbonate, ethylene glycol carbonate; glycerol carbonate; glycidol carbonate; 1, 2-butanediol carbonate; 1, 3-butanediol carbonate; 1, 2-pentanediol carbonate; 1, 3-pentanediol carbonate; epoxy carbonates; and blends thereof, and is present in an amount is between about 0.1 and 10 weight%, based on the weight of the resin.
3. The method of claim 2 wherein the amount of cyclic carbonate cure accelerant is between about 0.5 and about 3.5 weight%.
4. The method of claim 2 wherein the cyclic carbonate cure accelerant is selected from the group consisting of ethylene carbonate, propylene carbonate, and blends thereof.
5. The method of claim 1 wherein the amine cure accelerant is selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof, and is present in an amount between about 0.1 and 20 weight%, based on the weight of the resin.
6. The method of claim 5 wherein the amount of amine cure accelerant is between about 0.5 and about 10 weight%.
7. The method of claim 6 wherein the amine cure accelerant is selected from the group consisting of triethylene triamine, triethylene tetramine, tetraethylene

tetramine, tetraethylene pentamine, triethylene glycol diamine, tetraethylene glycol diamine, and blends thereof.

8. The method of claim 1, further comprising mixing the resin comprising cyclic carbonate cure accelerant and amine cure accelerant with an effective amount of resorcinol source before curing the resin.

9. The method of claim 8 wherein the resorcinol source is a formaldehyde-starved novolac resorcinol-formaldehyde resin and is present in an amount sufficient to provide resorcinol in an amount between about 0.1 and about 30 weight%, based on the weight of the resin.

10. A curable resin composition comprising:

a curable phenol-aldehyde resin selected from the group consisting of resole resins and novolac resins comprising a source of free aldehyde;  
an effective amount of cyclic carbonate cure accelerant; and  
an effective amount of amine cure accelerant.

11. The composition of claim 10 wherein the cyclic carbonate cure accelerant is selected from the group consisting of alkylene carbonate, ethylene glycol carbonate; glycerol carbonate; glycidol carbonate; 1, 2-butanediol carbonate; 1, 3-butanediol carbonate; 1, 2-pentanediol carbonate; 1, 3-pentanediol carbonate; epoxy carbonates; and blends thereof, and is present in an amount between about 0.1 and about 10 weight%, based on the weight of the resin.

12. The resin composition of claim 10 wherein the amine cure accelerant is selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof, and is present in an amount between 0.1 and about 20 weight %, based on the weight of the resin.

13. The resin composition of claim 11 wherein the amine cure accelerant is selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof, and is present in an amount between 0.1 and about 20 weight %, based on the weight of the resin.

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14. The resin composition of claim 13 further comprising an effective amount of resorcinol source.

15. The resin composition of claim 14, wherein the resorcinol source is a formaldehyde-starved novolac resorcinol-formaldehyde resin and is present in an amount sufficient to provide resorcinol in an amount between about 0.1 and about 30 weight%, based on the weight of the resin.

16. A cured phenol-aldehyde resin selected from the group consisting of resole resins and novolac resins comprising a source of free aldehyde, wherein said resin is cured in the presence of effective amounts of cyclic carbonate cure accelerant and amine cure accelerant.

17. The resin of claim 16 wherein the cyclic carbonate cure accelerant is selected from the group consisting of alkylene carbonate, ethylene glycol carbonate; glycerol carbonate; glycidol carbonate; 1, 2-butanediol carbonate; 1, 3-butanediol carbonate; 1, 2-pentanediol carbonate; 1, 3-pentanediol carbonate; epoxy carbonates; and blends thereof, and is present in an amount between about 0.1 and about 10 weight%, based on the weight of the resin.

18. The resin of claim 16 wherein the amine cure accelerant is selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof, and is present in an amount between 0.1 and about 20 weight %, based on the weight of the resin.

19. The resin of claim 17 wherein the amine cure accelerant is selected from the group consisting of polyalkylene polyamines, polyalkylene glycol polyamines, and blends thereof, and is present in an amount between 0.1 and about 20 weight %, based on the weight of the resin.

20. The resin of claim 16, wherein said resin is cured in the presence of effective amounts of cyclic carbonate cure accelerant, amine cure accelerant, and resorcinol source.